

What is claimed is:

1. A toy comprising:

a body;

a sound detector adapted to detect sound in at least a first frequency range above

5 normal human speech; and

an output apparatus mounted in the body and adapted to produce a first sensible action when sound is detected in the first frequency range.

2. The toy of claim 1, wherein the sound detector is further adapted to detect

10 sound in a second frequency range different than the first frequency range, and the output apparatus is further configured to produce a second sensible action when sound is detected in the second frequency range.

3. The toy of claim 2, in which the second frequency range includes

15 frequencies of normal human speech.

4. The toy of claim 3, in which the sound detector rejects frequencies in an upper range of normal human speech.

20 5. The toy of claim 3, in which the sound detector rejects frequencies between the first and second frequency ranges.

6. The toy of claim 5, in which the first frequency range includes a frequency of about 10 kHz, and the second frequency range includes a frequency of about 1 kHz.

7. The toy of claim 6, in which the sound detector rejects a third frequency range that is more than twice the second frequency range.

8. The toy of claim 5, in which the sound detector rejects a frequency of about 3 kHz.

9. The toy of claim 8, in which the sound detector rejects frequencies in the range of about 2 kHz to 5kHz.

10. The toy of claim 5, in which the frequencies in the first frequency range are more than four times the frequencies in the second frequency range.

11. The toy of claim 1, in which the body includes at least one movable part, and in which the sensible action includes one or more of illuminating a light, producing a sound, and moving the at least one movable part.

12. A toy comprising:

a body;

a sound detector adapted to detect sound in first and second frequency ranges and to exclude frequencies in a third frequency range between the first and second ranges;

5 and

an output apparatus mounted in the body and configured to produce at least a first sensible action when the detected sound is determined to be in one or both of the first and second frequency ranges.

10 13. The toy of claim 12, in which the first frequency range includes frequencies of normal human speech, and the second frequency range includes frequencies above normal human speech.

14. The toy of claim 13, in which the third frequency range includes  
15 frequencies of normal human speech.

15. The toy of claim 13, in which the first frequency range includes a frequency of about 1 kHz, and the second frequency range includes a frequency of about 10 kHz.

20 16. The toy of claim 13, in which the third frequency range includes a frequency of about 3 kHz.

17. The toy of claim 16, in which the third frequency range includes frequencies in the range of about 2 kHz to 5kHz.

18. The toy of claim 12, in which the frequencies in the second frequency range  
5 are more than four times the frequencies in the first frequency range.

19. The toy of claim 12, further comprising at least one movable part, and in which the sensible action includes one or more of illuminating one or more lights, producing one or more sounds, and moving the at least one movable part.

20. A toy comprising:

a body;

a sound receiver mounted in the body and adapted to receive sounds in a first frequency range including sounds having frequencies between at least about 1 kHz and  
5 10 kHz;

a first sound analyzer coupled to the sound receiver and adapted to produce a first control signal indicative of sound received in a second frequency range below about 2 kHz;

a second sound analyzer coupled to the sound receiver and adapted to produce a  
10 second control signal indicative of sound received in a third frequency range above about 5 kHz;

a first output device mounted in the body, responsive to the first control signal, and adapted to produce a first sensible action when sound in the first frequency range is received; and

15 a second output device mounted in the body, responsive to the second control signal, and adapted to produce a second sensible action when sound in the second frequency range is received.

21. A method of operating a toy having a body, comprising:

detecting sound in at least a first frequency range above normal human speech;

and

producing a sensible action in the body when sound is detected in the first

5 frequency range.

22. The method of claim 21, further comprising detecting sound in a second

frequency range different than the first frequency range, and producing a second sensible

action in the body when sound is detected in the second frequency range.

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23. The method of claim 22, in which the second frequency range includes

frequencies of normal human speech.

24. The method of claim 23, further comprising rejecting frequencies in an

15 upper range of normal human speech.

25. The method of claim 23, further comprising rejecting frequencies between

the first and second frequency ranges.

20 26. The method of claim 25, in which the first frequency range includes a

frequency of about 10 kHz, and the second frequency range includes a frequency of about

1 kHz.

27. The method of claim 26, further comprising rejecting a third frequency range that is more than twice the second frequency range.

28. The method of claim 25, further comprising rejecting a frequency of about 3 kHz.

29. The method of claim 28, in which rejecting a frequency includes rejecting frequencies in a range of about 2 kHz to 5kHz.

30. The method of claim 25, in which the frequencies in the first frequency range are more than four times the frequencies in the second frequency range.

31. The method of claim 21, in which the body includes at least one movable part, and in which producing a sensible action includes one or more of illuminating a light, producing a sound, and moving the at least one movable part.

32. A method of operating a toy having a body, comprising:  
detecting sound in first and second frequency ranges;  
rejecting frequencies in a third frequency range between the first and second ranges; and

producing in the body at least a first sensible action when the detected sound is determined to be in one or both of the first and second frequency ranges.

33. The method of claim 32, in which the first frequency range includes frequencies of normal human speech, and the second frequency range includes frequencies above normal human speech.

5           34. The method of claim 33, in which the third frequency range includes frequencies of normal human speech.

35. The method of claim 33, in which the first frequency range includes a frequency of about 1 kHz, and the second frequency range includes a frequency of about  
10   10 kHz.

36. The method of claim 33, in which the third frequency range includes a frequency of about 3 kHz.

15           37. The method of claim 36, in which the third frequency range includes frequencies in the range of about 2 kHz to 5kHz.

38. The method of claim 32, in which the frequencies in the second frequency range are more than four times the frequencies in the first frequency range.

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39. The method of claim 32, further comprising at least one movable part, and wherein the sensible action includes one or more of illuminating one or more lights, producing one or more sounds, and moving the at least one movable part.

5           40. A method of operating a toy having a body, comprising:  
receiving in the body sounds in a first frequency range including sounds having frequencies between at least about 1 kHz and 10 kHz;  
producing first and second sound signals representative of sound received in the first frequency range;  
10           filtering out of the first sound signal portions of the first sound signal representative of sound having frequencies above about 2 kHz;  
producing from the filtered first sound signal, a first control signal indicative of sound received in a second frequency range below about 2 kHz;  
filtering out of the second sound signal portions of the second sound signal  
15           representative of sound having frequencies below about 5 kHz;  
producing from the filtered second sound signal, a second control signal indicative of sound received in a third frequency range above about 5 kHz;  
producing a first sensible action in the body when the first control signal is produced; and  
20           producing a second sensible action in the body when the second control signal is produced.

41. A toy comprising:

a body;

means for detecting sound in at least a first frequency range above normal human speech; and

5 means for producing a sensible action in the body when sound is detected in the first frequency range.

42. The toy of claim 41, further comprising means for detecting sound in a

second frequency range different than the first frequency range, and means for producing

10 a second sensible action in the body when sound is detected in the second frequency range.

43. The toy of claim 42, in which the second frequency range includes

frequencies of normal human speech.

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44. A toy comprising:

a body;

means for detecting sound in first and second frequency ranges;

means for rejecting frequencies in a third frequency range between the first and

20 second ranges; and

means for producing in the body at least a first sensible action when the detected sound is determined to be in one or both of the first and second frequency ranges.

45. The toy of claim 44, in which the first frequency range includes frequencies of normal human speech, and the second frequency range includes frequencies above normal human speech.

5           46. The method of claim 45, in which the third frequency range includes frequencies of normal human speech.